

the liquid of the applied insulating resin with the board placed in a furnace (503) or by pressurizing the liquid of the applied insulating resin by means of a heated tool (78) after the application to the board, the electronic component is mounted on the board.

5 5. An electronic component mounting method comprising:

 forming a ball (96, 96a) at a tip of a metal wire (95) by an electric spark similarly to wire bonding and forming a gold bump (3, 103) by thermocompression-bonding the formed ball to an electrode (2) of an electronic component (1) with supersonic waves by means of a capillary (93, 193);

 mounting the electronic component on a circuit board (4) by aligning in position the electrode of the electronic component with an electrode (5) of the board with interposition of an anisotropic conductive layer (10) in which an insulating resin mixed with an inorganic filler is mixed with a conductive particle (10a) without leveling the formed bump;

 subsequently metallically bonding the gold bump to the electrode of the board with supersonic waves applied while shaping a tip so as to prevent collapse of a neck portion of the gold bump with a load applied from an upper surface side of the electronic component by means of a tool

(8); and

subsequently bonding the electronic component to the circuit board by hardening the insulating resin of the anisotropic conductive layer interposed between the electronic component and the circuit board while correcting warp of the board and crushing the bump with a pressure force of not smaller than 20 gf per bump applied to the electronic component against the circuit board and heat applied from the upper surface side of the electronic component or heat applied from the board side or heat applied from both the electronic component side and the board side, so that the electrode of the electronic component is electrically connected with the electrode of the circuit board.

6. An electronic component mounting method as claimed in ~~[any one of]~~ claims 1 ~~[through 5]~~, wherein the electronic component (1) has a plurality of electrodes (2), a solid anisotropic conductive film sheet (10) that has a configurational dimension smaller than an outline dimension (OL) defined by joining the plurality of electrodes (2) of the electronic component (1) is stuck as the anisotropic conductive layer to the circuit board (4) before the positional alignment and thereafter subjected to the positional alignment, and at the bonding time, the insulating resin interposed between the electronic

component and the circuit board is hardened by pressurizing the electronic component against the circuit board with heat applied to the anisotropic conductive film sheet (10) while concurrently correcting the warp of the circuit board, so that the electronic component is bonded to the circuit board.

7. An electronic component mounting method as claimed in ~~any one of~~ claims 1 ~~through 6~~, wherein the gold bump that has an approximately conically shaped tip is formed on the electrode of the electronic component by means of the capillary that has a chamfer angle (θ_c) of not greater than 100° when a gold ball (96a) is formed by an electric spark at a tip of a gold wire (95) similarly to the wire bonding in forming the bump on the electronic component and a tip shape provided with no flat portion to be brought in contact with the gold ball.

8. An electronic component mounting method comprising:

forming a ball (96, 96a) at a tip of a metal wire (95) by an electric spark similarly to wire bonding and forming a bump (3, 103) on an electrode (2) of an electronic component (1) by means of a capillary (93, 193) by the formed ball;

mounting the electronic component on a circuit board (4) by aligning in position the electrode of the